

CLAIMS

We claim:

1. (Currently amended) A device for trapping airborne water or ice particles in a refrigeration unit, comprising:
 - an evaporator including a plurality of coils, and
 - a trapping device disposed between said evaporator and airflow directed toward said evaporator, said trapping device intercepting liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator, wherein at least one metallic element is disposed on a surface or within said filter material.
2. (Original) The device of claim 1, wherein said refrigeration unit is a freezer.
3. (Original) The device of claim 2, wherein said freezer is a walk-in freezer.
4. (Canceled) The device of claim 1, wherein said trapping device comprises a filter including at least one metallic element on a surface or within the media of said filter.

5. (Currently amended) The device of claim [[4]] 1, wherein said metallic element is a wire.

6. (Currently amended) The device of claim [[4]] 1, wherein said system includes a motor for [[translating]] rotating said [[filter]] trapping device [[relative to said airflow]].

7. (Currently amended) The device of claim 6, further comprising [[at least one scraper]] an electrical contact brush, wherein rotation of said trapping device over said contact brush results in electrical contact between said metallic element and said contact brush.

8. (Currently amended) The device of claim 7, [[wherein said]] further comprising at least one scraper disposed on either side of said electrical contact brush for removing ice from said trapping device [[is spring-loaded]].

9. (Currently amended) The device of claim [[4]] 7 further comprising at least one electrical power source, wherein said metallic element is heated by said power source to melt ice on said filter into water when said contact brush is in electrical contact with said metallic element.

10. (Canceled) The device of claim 9, wherein said electrical power source is an electrical contact brush.

11. (Currently amended) The device of claim [[10]] 7, wherein said electrical contact brush is spring-loaded.

12. (Currently amended) The device of claim [[1]] 6, further comprising at least one control unit coupled to said motor for controlling when to initiate rotation of said device, said control unit being at least one selected from the group consisting of a time clock, a differential pressure controller and an optical sensor.

13. (Currently amended) The device of claim [[1]] 9, further comprising condensate drainage piping, said piping receiving and transferring away said water melted by said heated metallic element.

14. (Currently amended) The device of claim 13, wherein said condensate drainage piping is heat-traced for preventing re-freezing of said water.

15. (Currently amended) A system for trapping airborne water or ice particles in a refrigeration unit, said system comprising:

an evaporator including a plurality of coils, and
a trapping device disposed between said evaporator and airflow directed toward said evaporator, said trapping device intercepting liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator,

wherein at least one metallic element is disposed on a surface or within said filter material.

16. (Currently amended) A method for trapping airborne water or ice particles in a refrigeration unit, comprising the steps of:

providing a trapping device interposed between an evaporator comprising a plurality of coils and airflow directed toward said evaporator, and
directing said airflow toward said trapping device, wherein said trapping device intercepts liquid water or ice particles that would otherwise accumulate on said plurality of coils, said trapping device comprising a bulk filter material, said bulk filter material providing airflow therethrough to said evaporator, wherein at least one metallic element is disposed on a surface or within said filter material.

17. (Currently amended) The method of claim 16, further comprising the steps of [[actively]]

rotating said trapping device into a position which completes an electrical circuit including said metallic element, and
flowing electrical current through said metallic element to melt [[removing]] ice
that accumulates on said trapping device.

18. (New) The device of claim 1, wherein said bulk filter material comprises layered fiberglass.